



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

NOV 01 2017

Mr. Peter Newman, Chairman
Mr. Peter Savlen, Commissioner
Mr. Daniel Lavoie, Commissioner
PO Box 265
Warner Village Water District
Warner, NH 03278

Re: NPDES Permit No. NH0100498
Administrative Order on Consent Docket No. CWA-AO-R01-FY17-15

Dear Commissioners,

Enclosed is an Administrative Order on Consent ("Order" or "AOC") issued to the Warner Village Water District ("District") for violations of the effluent limits contained in NPDES Permit No. NH0100498 ("Permit"). The Order specifically cites violations of the total recoverable copper and total phosphorus limits contained in the Permit.

The Order requires the District to prepare and submit (i) a facilities plan that further evaluates the initial conclusions and recommendations of the 2017 *Horizons Engineering Inc. Groundwater Discharge Feasibility Investigation-Warner Village, New Hampshire* ("Groundwater Discharge Investigation") for achieving full compliance with the limits in the permit, (ii) a WWTF Upgrade Facilities Plan to comply with the NPDES Permit that identifies the upgrades and process modifications required to achieve full compliance with the NPDES Permit's limits if the conclusions and recommendations of the Groundwater Discharge Investigation are deemed infeasible, and (iii) a Phosphorus Optimization Plan. The AOC also establishes interim monitoring requirements for total recoverable copper and total phosphorus.

Finally, the Order requires the District to submit quarterly compliance status updates until the schedule for implementing controls to achieve full compliance with the Permit's effluent limits is completed and fully operational, and the WWTF

upgrade project is completed and fully operational or the WWTF discharge has been eliminated.

Please contact Joy Hilton of my staff regarding any questions that you may have regarding the terms and conditions of the Order. She can be reached at (617) 918-1877.

Sincerely,



Susan Studlien, Director
Office of Environmental Stewardship

Enclosure

cc: Tracy Wood, NHDES

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I – New England**

IN THE MATTER OF:

Warner Village Water District
Warner, New Hampshire
NPDES Permit No. NH0100498

Proceedings under Sections 308(a)
and 309(a)(3) of the Clean Water Act,
as amended, 33 U.S.C. §§ 1318
and 1319(a)(3)

) **DOCKET NO. CWA-AO-R01-FY17-15**

) **FINDINGS OF VIOLATION**

) **AND**

) **ADMINISTRATIVE ORDER**

) **ON CONSENT**

I. STATUTORY AUTHORITY

The following Findings are made and ORDER ON CONSENT ("Order") issued pursuant to Sections 308(a) and 309(a)(3) of the Clean Water Act, as amended (the "CWA" or "Act"), 33 U.S.C. §§ 1318 and 1319(a)(3). Section 309(a)(3) of the Act grants to the Administrator of the U.S. Environmental Protection Agency ("EPA") the authority to issue orders requiring persons to comply with Sections 301, 302, 306, 307, 308, 318 and 405 of the Act and any permit condition or limitation implementing any of such sections in a National Pollutant Discharge Elimination System ("NPDES") permit issued under Section 402 of the Act, 33 U.S.C. §1342. Section 308(a) of the Act, 33 U.S.C. § 1318(a), authorizes EPA to require the submission of any information required to carry out the objectives of the Act. These authorities have been delegated to EPA Region I's Administrator, and in turn to the Director of EPA, Region I's Office of Environmental Stewardship ("Director").

The Order herein is based on findings of violation of Section 301 of the Act, 33 U.S.C. § 1311, and the conditions of NPDES Permit No. NH0100498. Pursuant to Section 309(a)(5)(A) of the Act, 33 U.S.C. § 1319(a)(5)(A), the Order provides a schedule for compliance which the Director has determined to be reasonable.

II. DEFINITIONS

Unless otherwise defined herein, terms used in this Order shall have the meaning given to those terms in the Act, 33 U.S.C. § 1251 *et. seq.*, the regulations promulgated thereunder, and any applicable NPDES permit. For the purposes of this Order, "NPDES Permit" means the District's NPDES Permit, No. NH0100498, and all amendments or modifications thereto and renewals thereof as are applicable, and in effect at the time.

III. FINDINGS

The Director makes the following findings of fact:

1. The Warner Village Water District ("District") is a municipality, as defined in Section 502(4) of the Act, 33 U.S.C. § 1362(4), established under the laws of the State of New Hampshire.
2. The District is a person under Section 502(5) of the Act, 33 U.S.C. § 1362(5). The District is the owner of a publicly-owned wastewater treatment works ("POTW") that includes a 0.11 million gallon per day ("MGD") secondary wastewater treatment facility ("WWTF") from which it discharges pollutants, as defined in Section 502(6) and (12) of the Act, 33 U.S.C. §§ 1362(6) and (12), from a point source, as defined in Section 502(14) of the Act, 33 U.S.C. § 1362(14), to the Warner River. The Warner River flows into the Merrimack River, which flows into the Atlantic Ocean. These water bodies are all navigable waters under Section 502(7) of the Act, 33 U.S.C. § 1362(7).
3. On September 28, 2015, the District was issued NPDES Permit No. NH0100498 by the Director of the Office of Ecosystem Protection of EPA, Region 1, under the authority given to the Administrator of EPA by Section 402 of the Act, 33 U.S.C. § 1342. This authority has been delegated by the Administrator of EPA to the Regional Administrator of EPA, Region 1, and in turn to the Director of the Office of Ecosystem Protection.
4. The NPDES Permit authorizes the District's WWTF to discharge pollutants, including total phosphorus and total recoverable copper, which are pollutants as

defined in Section 502(6) and (12) of the Act, 33 U.S.C. §§ 1362(6) and (12), from outfall serial number 001, a point source, as defined in Section 502(14) of the Act, 33 U.S.C. § 1362(14), to the Warner River, subject to the effluent limitations, monitoring requirements and other conditions specified in the NPDES Permit. Part A.1.a. of the NPDES Permit establishes effluent limitations and monitoring requirements for the discharge of treated effluent from outfall serial number 001.

6. The WWTF was not designed to achieve phosphorus removal. Since at least October 1, 2015 to the present, in violation of the NPDES Permit, the District has discharged wastewater containing total phosphorus and total recoverable copper in concentrations greater than the effluent limitations for outfall serial number 001 contained in the NPDES Permit.
7. Section 301(a) of the Act, 33 U.S.C. § 1311(a), makes unlawful the discharge of pollutants to waters of the United States except, in compliance with the terms and conditions of an NPDES permit issued pursuant to Section 402 of the Act, 33 U.S.C. § 1342.
8. The District's discharges of pollutants from the POTW to the Warner River in violation of the NPDES Permit, have occurred in violation of Section 301(a) of the Act, 33 U.S.C. § 1311(a).

IV. ORDER

Accordingly, pursuant to Sections 308 and 309(a)(3) of the Act, it is hereby ordered that:

1. Wastewater Treatment Facilities Upgrade
 - a. Within 180 calendar days of receipt of this Order, the District shall submit to EPA and the New Hampshire Department of Environmental Services ("NHDES") a Facilities Plan that further evaluates the initial conclusions and recommendations of the *2017 Horizons Engineering Inc. Groundwater Discharge Feasibility Investigation-Warner Village, New Hampshire* for

achieving full permit compliance including: (i) comparing the expected performance of the groundwater discharge treatment technology selected by the Study Parcel C owners (i.e., drip irrigation system) to the technology initially recommended by the District's consultants (i.e., rapid infiltration basins); (ii) performing field tests to determine the hydraulic properties of Study Parcel C soils including the percolation rates; (iii) conducting a comprehensive groundwater mounding assessment including a test boring program and field testing to determine soil types and thicknesses, the depth to bedrock or other impervious layer, and hydraulic conductivity; (iv) making a final determination regarding the feasibility of utilizing a groundwater discharge system to achieve compliance, and if feasible, selecting the treatment technology and proposing a schedule for achieving full permit compliance as soon as practicable and by no later than September 28, 2021.

- b. In the event that a groundwater discharge is determined infeasible, within 365 days of receipt of this Order, the District shall evaluate and submit a report regarding the capability of the WWTF's unit operations and processes ("WWTF Upgrade Facilities Plan") to comply with the NPDES Permit and shall identify the upgrades and process modifications required to achieve full compliance with the NPDES Permit's limits.
- c. Within 90 days of receipt of this Order, the District shall submit to EPA and the NHDES for review and approval, a plan to optimize phosphorus removal ("Phosphorus Optimization Plan"). The Phosphorus Optimization Plan shall assess the cost and feasibility of interim process control modifications, including multiple dosing points for chemical addition and modifications to dosing rates, and shall assess alternatives for minimizing influent phosphorus loadings to the WWTF. The Phosphorus Optimization Plan shall also include a schedule for implementing the recommendations of the Phosphorus Optimization Plan (the "Phosphorus Optimization Plan Implementation Schedule").

- d. The schedules submitted pursuant to Paragraphs IV.1.a., IV.1.b, and IV.1.c. of this Order shall be incorporated and enforceable hereunder upon their approval by, and as amended by, EPA and the Permittee shall thereafter meet the milestones contained therein.

2. Copper Optimization

- a. In the event that a groundwater discharge is determined to be infeasible, within 545 calendar days of receipt of this Order, the District shall submit to EPA and the NHDES for review and approval a detailed engineering report (the "Copper Optimization Engineering Report") including a schedule for implementing controls to achieve full compliance with the Permit's copper limits (the "Implementation Schedule"). The Copper Optimization Engineering Report shall be consistent with the Copper Optimization Scope of Work included as **Attachment B**.
- b. The Implementation Schedule submitted pursuant to Paragraph IV.2.a. of this Order shall be incorporated and enforceable hereunder upon the Implementation Schedule's approval by, and as amended by, EPA.

3. Interim Effluent Limitations

- a. From the effective date of this Order, the District shall, at a minimum, comply with the interim effluent limitations and monitoring requirements contained in **Attachment A** of this Order.
- b. With the completion of the Phosphorus Optimization Plan required by Order Paragraph IV.1.c, EPA will review and revise the **Attachment A** limitations as appropriate to be effective until the subsurface disposal system or WWTF upgrade is fully operational.
- c. The District shall also comply with all effluent limitations, monitoring requirements and other conditions specified in the NPDES Permit for the parameters not covered in **Attachment A**.

4. Quarterly Progress and Work Projection Reports:

Beginning with the calendar quarter ending December 31, 2017 and continuing through the calendar quarter when the schedule for implementing controls to achieve full compliance with the Permit's effluent limits is completed and fully operational, and the WWTF upgrade project is completed and fully operational or the WWTF discharge has been eliminated, the District shall submit quarterly reports on the District's progress in implementing the provisions of this Order. The reports shall be submitted by the last day of the month following the calendar quarter monitoring period. At a minimum, these progress reports shall include a description of:

- a. The activities undertaken during the reporting period directed at achieving compliance with this Order;
- b. The status of all plans, reports, and other deliverables required by this Order that the District completed and submitted during the reporting period; and
- c. The expected activities to be completed during the next reporting period in order to achieve compliance with this Order.

V. NOTIFICATION PROCEDURES

1. Where this Order requires a specific action to be performed within a certain time frame, the Permittee shall submit a written notice of compliance or noncompliance with each deadline. Notification must be mailed within fourteen (14) days after each required deadline. The timely submission of a required report shall satisfy the requirement that a notice of compliance be submitted.
2. If noncompliance is reported, notification should include the following information:
 - a. A description of the noncompliance;
 - b. A description of any actions taken or proposed by the Permittee to comply with the lapsed schedule requirements;

- c. A description of any factors that explain or mitigate the noncompliance; and
- d. An approximate date by which the Permittee will perform the required action. After a notification of noncompliance has been filed, compliance with the past-due requirement shall be reported by submitting any required documents or providing EPA with a written report indicating that the required action had been achieved.

Submissions required by this Order shall be in writing, and sent via email, and shall be mailed to the following addresses:

U.S. Environmental Protection Agency
Region I
5 Post Office Square, Suite 100
Mail Code OES04-03
Boston, MA 02109-3912
Attn: Joy Hilton (Mail Code: OES04-3)
Hilton.Joy@epa.gov

and

New Hampshire Department of Environmental Services
Wastewater Engineering Bureau
P.O. Box 95
29 Hazen Drive
Concord, NH 03302
Attn: Tracy Wood
Tracy.Wood@des.nh.gov

VI. GENERAL PROVISIONS

- 1. This Order does not constitute a waiver or a modification of the terms and conditions of the Permit. The Permit remains in full force and effect. EPA reserves the right to seek any and all remedies available under Section 309 of the Act, 33 U.S.C. § 1319, as amended, for any violation cited in this Order.

2. The Permittee waives any and all claims for relief and otherwise available rights or remedies to judicial or administrative review which the District may have with respect to any issue of fact or law set forth in this Order, including, but not limited to, any right of judicial review of the Section 309(a)(3) Compliance Order on Consent under the Administrative Procedure Act, 5 U.S.C. §§ 701-708.
3. Any material modification to the terms of this Order shall be by written agreement of the Parties. Any nonmaterial modifications to the terms of this Order, such as approval of modifications to submissions to EPA and NHDES, or the due dates of such submissions, shall be effective upon written approval from EPA.
4. This Order shall become effective upon signature by both Parties.

10/13/17
Date

Peter Newman
Peter Newman, Chairman
Warner Village Water District

10-13-17
Date

Peter Savlen
Peter Savlen, Commissioner
Warner Village Water District

10/13/17
Date

Daniel Lavoie
Daniel Lavoie, Commissioner
Warner Village Water District

10/31/2017
Date

Susan Studlien
Susan Studlien, Director
Office of Environmental Stewardship
U.S. Environmental Protection Agency
Region I

ATTACHMENT A

In the Matter of the District of Warner, New Hampshire

INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (From the effective date of the Administrative Order on Consent until the interim limits are reviewed and revised pursuant to Order Paragraph IV.3. or when EPA determines that the Warner Village Water District has not complied with the interim milestones set forth in this Order.)

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	<u>Concentration</u>			
	<u>Average Monthly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Total Phosphorus April 1 st through October 31 st	Report ¹	Report ¹	1/Week	24-Hour Composite
Total Recoverable Copper	Report ²	Report ²	2/Month	Grab

¹ Report lbs/day

² Report µg/l

ATTACHMENT B

Copper Optimization Scope of Work

The report shall include:

I. BACKGROUND AND PROBLEM STATEMENT

- A. A description of the nature and extent of the NPDES Permit effluent violations for copper and other metals and a description of the equipment used to sample the final effluent noting any metal components (i.e. copper tubing).
 - B. An analysis of historical influent monitoring data including the results of the monitoring required under Paragraph III of this Attachment to locate and quantify the sources of the influent copper loadings to the Publicly-Owned Treatment Works (POTW) and to account for influent copper variability.
 - C. An inventory of each discrete category of copper sources and an estimate of each category's annual mass contribution relative to the total POTW loading. The analysis shall include both short-term (daily, weekly) and long-term (seasonal) fluctuations from each source. Where monitoring data are not available, estimates and the source of each estimate shall be provided. At a minimum, the following potential sources of copper shall be evaluated:
 - 1. Public and private water supply(ies) that provide water to the users of the Permittee's collection system including any private sources that supply water to industrial users of the Permittee's collection system;
 - 2. Significant Industrial Users (SIUs) of the Permittee's collection system;
 - 3. Industrial/commercial sources that are known to, or are suspected of, discharging copper. These shall include, but not be limited to, industries that do not meet the definition of a SIU, medical facilities, printers, schools, laboratories, photo processing operations, laundry and dry cleaning operations, and other institutions that may discharge wastewater to the POTW;
 - 4. Domestic, commercial, and industrial septage, hauled wastewater, or liquid sludge received from other POTWs as well as landfill leachate that is treated at the POTW;
 - 5. Household domestic wastewater that includes chemical additives, particularly copper-based root control additives; and
 - 6. Side-stream flows from sludge dewatering, compost area runoff, or any other internal plant flow or treatment chemical process.
- As part of these evaluations, the Permittee shall assess the impact of copper on the POTW influent and effluent, sludge quality, sludge processing, activated sludge (concerns/inhibition), the receiving water and aquatic life.

- D. A mass balance delineating the sources of copper entering the POTW and the fate of copper within the POTW;
- E. A determination of the projected maximum allowable POTW headworks loading for each discrete category of copper discharged to the POTW, a description of the specific treatment technologies and source reduction initiatives that will be implemented to meet the projected maximum allowable POTW headworks loadings, schedules for the implementation of the selected treatment technologies and source reduction measures, and an estimate of the expected copper reductions associated with the implementation of the selected treatment technologies and source reduction measures.

II. DISCRETE COPPER SOURCE INVESTIGATIONS

A. WATER SUPPLY

1. The evaluation of the domestic drinking and industrial water supply(ies) that serve(s) the users of the POTW shall, at a minimum, include:
 - a. A determination of the quantity and percent of the total copper loading in the POTW influent that can be attributed to the copper found in the raw water supply(ies) as well as the copper that has leached from homeowner distribution systems;
 - b. An evaluation of the feasibility (consisting of a desktop and/or demonstration study) and status of implementation of various corrosion control technologies, including, but not limited to, each of the following, applied separately, and where appropriate in combination with one another, to achieve optimal corrosion control for that particular water system:
 - (1) Alkalinity and pH adjustment;
 - (2) Calcium hardness adjustment; and
 - (3) Phosphate or silicate-based corrosion inhibitors (The evaluation of phosphorus-based additive alternatives must also consider the impacts of the additional phosphorus on receiving water quality).
 - c. An assessment of the impact of the additional treatment options on other drinking water quality parameters (e.g. lead, alkalinity, pH, bacteria, calcium, disinfection byproducts formation, taste, odor, color, etc...) within the water supply system;
 - d. An evaluation of the materials that comprise the water distribution system;
 - e. Identification of chemical, physical, and other constraints that may affect the implementation of a particular treatment option for the drinking water supply;
 - f. A description of each water supply's management, its relation to the

POTW authority and the water supply's compliance status with the requirements of EPA's Lead and Copper Rule. Identify any barriers to a coordinated, cost-effective joint approach to copper reduction in the water supply(ies) beyond the minimum requirements of the Lead and Copper Rule. Identify what actions can be taken to overcome the identified barriers.

B. EVALUATION OF INDUSTRIAL USERS

An evaluation of the copper contributions from the industrial users to the POTW that shall include:

1. INVENTORY

Identification, listing, and evaluation of all industrial and commercial users that discharge copper to the POTW. These sources may include, but are not limited to, significant industrial users¹, such as electroplaters, metal finishers, metal fabrication and machine shops, leather tanning and textile mills. Other potential industrial/commercial copper sources may include medical facilities, printers, schools, laboratories, photo processing operations, laundry and dry cleaning operations, or other institutions that may contribute wastewater to the POTW where dyes or other products used in these operations may contain copper. The amount of copper annually discharged from these sources to the POTW shall be expressed in pounds and as a percent of the total amount of copper being introduced to the POTW from all sources.

2. LOCAL LIMITS EVALUATION

- a. An evaluation of the adequacy of any existing local limit for copper (or other metal of concern) developed by the POTW. The evaluation shall include a comprehensive headworks analysis that quantifies the total amount of copper being introduced to the POTW from all categories of sources and the maximum allowable headworks loading from all categories of sources.
- b. Based upon the headworks analysis, and the other evaluations included in the Scope of Work, determine the need to:
 - (1) develop a local limit for copper;
 - (2) revise any existing local limit(s) for copper; and
 - (3) expand the applicability of the limit(s) to include new industrial/commercial users if the evaluations conducted in this

¹ Under 40 C.F.R. §403.3(t), the term Significant Industrial User means any industrial user subject to Categorical Pretreatment Standards under 40 C.F.R. 403.6 and 40 C.F.R chapter I, subchapter N, or any other industrial user that discharges an average of 25,000 gallons per day or more of process waste water to the POTW or contributes a process waste stream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant.

- scope of work reveal that more stringent controls are necessary.
- c. The local limits evaluation shall be performed in accordance with EPA's Guidance Manual for the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program (Dec.,1987). In the event that the Copper Optimization Engineering Report and headworks analysis determines that the treatment modifications and source reduction measures selected by the Permittee under Paragraph IV.D. of this Scope of Work are not expected to result in the POTW's compliance with its NPDES Permit copper limits, and that the local domestic/background copper loadings will continue to be greater than the maximum allowable headworks loading allowing no allocation for any pollutant loadings from industrial users, a local limit for copper must be established in accordance with Paragraph II.B.2.d. In the event that the treatment modifications and source reduction measures selected by the Permittee under Paragraph IV.D. of this Scope of Work are expected to result in the POTW's compliance with its NPDES Permit copper limits, the local limits established for copper must be consistent with the maximum allowable industrial headworks loading.
 - d. Under those circumstances where the headworks loading analysis determines that there is no allocation for any pollutant loadings from industrial users due to contributions from other sources, the copper local limit must be developed at a level equal to the POTW's NPDES copper limit, adjusted to reflect the POTW's removal efficiency for copper. For example, if the POTW's NPDES permit monthly average copper limit is 15 micrograms/liter (ug/l) and the POTW is capable of removing 80% of the copper discharged to the POTW, the monthly average local limit for copper would be established at $(15 \text{ ug/l})/(0.2)$ or 75 ug/l.
 - e. The development of the local limit for copper or revisions to the local limit for copper under this paragraph shall be included as a separate section of the engineering report that must be submitted pursuant to Paragraph III.1. of this Order for EPA's review and concurrence.

3. TECHNOLOGY/PRETREATMENT EVALUATION

An evaluation of industry-specific treatment technologies or operational modifications that must be implemented to ensure compliance with the local limits calculated for copper in Paragraph II.B.2. above. The evaluation can be conducted by the Permittee or can be delegated to the industrial/commercial user. The evaluation of facility-specific treatment technologies or operational modifications necessary to comply with any

local limits established under this Order shall include, but shall not be limited to, the following:

- a. The name and location of the industrial/commercial facility (the "facility");
- b. A description of the operations conducted and major products produced at the facility with a specific emphasis on those activities and operations that contribute copper to the facility's wastewater;
- c. An evaluation of the characteristics of the wastewater discharged to the POTW, including additional representative sampling necessary to quantify the copper contribution from the facility;
- d. A description of the wastewater treatment unit operations and processes employed at the facility including an estimate of the annual mass copper removal efficiency of the treatment facilities with specific emphasis on those operations and processes that remove copper;
- e. A detailed description of all treatment technologies and operational modifications that may potentially reduce the quantity of copper discharged from the facility, including an estimate of the expected annual copper reduction and capital and operation and maintenance cost associated with the implementation of each alternative; and
- f. Prioritization of the alternatives based upon their expected effectiveness, technical and economic feasibility.

4. POLLUTION PREVENTION EVALUATION

In addition to the technology/pretreatment evaluation required in Paragraph II.B.3. above, the POTW shall develop, or require each of the commercial/industrial users that discharge copper to the POTW to develop, a Waste Minimization Plan for the purpose of further reducing the copper loadings from each industrial/commercial user through pollution prevention/source reduction alternatives. At a minimum, the Waste Minimization Plan for each significant source of copper, shall include, but shall not be limited to, the following information:

- a. The name of the industrial/commercial facility and location of the site;
- b. A general description of the major products manufactured and produced at the facility;
- c. A process flow diagram of the unit operations highlighting those activities and operations that contribute copper to the facility's wastewater;
- d. An evaluation of source reduction approaches available to the generator that may reduce copper in the commercial/industrial wastestreams. The evaluation shall consider at least the following areas:

- (1) Raw materials changes;
- (2) Operational process changes;
- (3) Product quality changes; and
- (4) Administrative steps taken to reduce copper including but not limited to:
 - a. Inventory Control;
 - b. Employee Award Programs;
 - c. In-house Policies;
 - d. Employee Training;
 - e. Corporate or Management Commitment, and
 - f. Other Programs or Approaches;
- e. An evaluation of the effects of the source reduction methods on emissions and discharges to other media;
- f. The report shall prioritize each evaluated approach and shall also discuss the following:
 - (1) Expected change in the amount of copper generated;
 - (2) Technical and financial feasibility; and
 - (3) Employee health and safety implications;
- g. A list of alternatives not selected for further evaluation as a potentially viable source reduction approach and a rationale for rejecting each alternative.

5. RECOMMENDATIONS

Evaluate combinations of both pretreatment technologies and pollution prevention approaches to determine the most effective course of metals reduction.

C. SEPTAGE, LEACHATE, AND OTHER HAULED WASTES

1. SEPTAGE

- a. Report the quantity and category (homeowner, commercial, neighboring community, etc...) of septage received at the POTW and the total annual copper loading as a percentage of the total annual copper loading to the POTW. Provide the basis for the measurement or estimate. Describe any chemical monitoring, tracking, or permit system used to control the level of septage discharged to the POTW;
- b. Identify the copper loading from each category of septage on an average daily and annual basis, describing whether there are seasonal changes in the amount or character of the septage;
- c. If septage discharges are accepted from communities not served by the same water supplier as the POTW, these discharges must be sampled, and separately identified as part of the program outlined under Paragraph III. Describe whether the contributing communities comply with EPA's Lead & Copper Rule and whether they have taken

any additional corrosion control measures to reduce copper beyond the requirements of the Lead & Copper Rule.

2. LEACHATE

- a. Identify the name and location of the source, and the location of the discharge of any leachate received by the POTW; and
- b. Report the average daily, monthly average and annual volume of leachate received by the POTW. Characterize the chemical content of the leachate and determine the total annual copper loading of the leachate as a percentage of the total annual copper loading to the POTW providing the basis for the measurement or estimate. Describe any chemical sampling, tracking, or permit system used to monitor or regulate the leachate received by the POTW.

3. OTHER HAULED WASTEWATERS

- a. If the Permittee accepts non-septage hauled wastewater from industrial or commercial establishments, describe the approval process for individual or contract dischargers citing any sampling protocols and the local sewer use ordinance, where applicable.
 - b. Identify all non-septage wastewaters hauled to the POTW and describe the chemical monitoring and the tracking or permit system used to control such discharges.
 - c. Report the amount of non-septage wastewater delivered to the POTW on an average daily and annual basis.
 - d. Determine the non-septage hauled waste copper loading as a percent of the total POTW loading. Provide the basis for the measurement or estimate.
4. Identify control strategies for septage, leachate and other hauled wastes including scheduling modifications, chemical treatment at the point of injection, restrictions on, or banning of, categories of discharges, or other means of improved management controls and prioritize the alternatives based upon their expected effectiveness, technical and economic feasibility.

D. HOUSEHOLD DOMESTIC WASTES

1. Identify through a residential survey, by sales analyses of products commonly available in the region, or by estimate of domestic chemical product usage, the amount of copper that may be discharged to the collection system from the use of household chemical products.
2. Estimate the usage of copper-based root control products within the sewered and non-sewered septage-generating service areas. Consider homeowner and contractor use of these chemical additives.
3. Estimate the annual household domestic waste copper loading as a percent of the total annual POTW copper loading providing the basis for

the measurement or estimate.

4. Propose the development and implementation of public outreach and programs that educate consumers regarding the impact of household products on the environment and the availability of alternative products.
5. Consider bans on sales or use of products associated with increased levels of copper in the POTW effluent and explain the rationale and limitations for either implementing or not implementing any bans.

E. SIDE-STREAM OR INTERNAL FLOWS

1. Describe the POTW unit operations and processes and provide a process flow diagram highlighting side-stream return flows from sludge dewatering, compost area runoff, and locations of septage introduction, chemical addition, etc....
2. Identify the quantity of all wastewater treatment chemical additives used at the POTW, chemical makeup, injection points, and seasonal or episodic usage patterns.
3. Evaluate the annual side-stream and internal copper loading as a percent of the total annual POTW copper loading providing the basis for the measurement or estimate.
4. Identify alternative POTW management or treatment options for the reduction of copper in side-streams, internal flows, or chemical usage and implementation time frames for each considered option.

III. POTW MODIFICATIONS

- A. An assessment of the percent of the annual copper loading in the wastewater influent that has historically been removed by the POTW noting any seasonal variations.
- B. Provisions for a sampling program that shall be initiated within 90 days of the issuance of this Order, in which weekly monitoring of the level of total and dissolved copper in the POTW influent and effluent, side-streams, and any leachate discharged to the collection system or wastewater treatment facility shall be conducted. This sampling program shall continue for three consecutive months and shall be comprised of twenty-four hour composite samples. Influent and side-stream sampling shall be coordinated with effluent copper sampling and shall be representative of all flows entering the POTW. The results of this monitoring shall be included as a separate table in the report.
- C. Provisions for a sampling program that shall be initiated within 90 days following the issuance of this Order, in which weekly monitoring of the level of total and dissolved copper in septage and any hauled wastewater discharges to the POTW shall be conducted. Representative weekly grab samples shall

be taken for three consecutive months. Where possible, the grab samples shall be coordinated with the composite sampling requirements of Paragraph III.B. The results of this monitoring shall be included as a separate table in the report.

- D. Provisions for a three-month sampling program that shall be initiated within 90 days of the issuance of this Order, in which weekly monitoring of the level of total and dissolved copper in the effluents from various unit processes at the POTW (i.e. primary effluent, secondary effluent, final effluent, sludge, etc...) are used to develop a mass balance that characterizes the level of copper removal through the various treatment operations. Where possible, the samples shall be coordinated with the composite sampling requirements of Paragraphs III.B and III.C. Identify gaps in this mass balance exercise explaining where copper "losses" may have occurred. The results of this monitoring shall be included as a separate table in the report.
- E. A summary of the results of the monitoring required in III.B., III.C., and III.D. above, including an assessment of the magnitude and variability of the level of copper entering the POTW to determine whether all likely sources of copper have been identified and whether effluent variability correlates to influent variability or is the result of treatment variability or other factors.
- F. A quality assurance/quality control program to ensure that appropriate sampling and analytical techniques and chain of custody procedures are implemented such that the monitoring results of the sampling programs are accurate at the levels required by the permit's effluent limits (i.e. clean techniques are used where required and the analytical equipment used to analyze the samples is capable of achieving the detection levels required by the NPDES permit effluent limit).
- G. An evaluation of the POTW's ability to achieve greater removals of copper through operational changes, including but not limited to, single-point and multiple-point chemical addition, and/or installation of additional treatment. These evaluations shall include an assessment of the level of copper that is expected to be removed through the implementation of the evaluated treatment plant modifications.
- H. Development of capital and operational costs and schedules for implementing any improvements necessary at the POTW to reduce the copper content in the effluent.

IV. RANKING OF SOURCES AND CONTROL STRATEGIES

- A. Rank each category of copper sources, including side-stream sources, by annual average quantity and percent contribution to the overall POTW loading. If important seasonal differences exist, rank the sources during the various

seasons.

- B. Summarize the influent and effluent copper reduction potential of each of the alternatives evaluated under Paragraphs II and III.
- C. For each alternative that is likely to reduce the level of copper discharged by the POTW, evaluate the technical, political, and economic feasibility of the alternative and rank each alternative with regards to effectiveness and implementability.
- D. Select the options, or mix of alternatives, that provide the greatest likelihood of achieving significant effluent copper reduction leading to compliance with the POTW effluent limits.
- E. Include specific schedules for the implementation of each of the alternatives selected under Paragraph IV.D and propose a monitoring program that will determine the effectiveness of the completed treatment modifications and source reductions measures.